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ABSTRACT

This paper, presented at a 1976 conference on the theory and practice of beginning reading instruction, introduces the theory that reading development occurs in stages patterned after Piaget's cognitive development stages. The stages include the prereading stage (until the age of six years); the decoding stage (first/second grade); the stage of confirmation, fluency, and "ungluing from print" (second/third grade); the reading-for-learning stage (intermediate and junior high school years); the multiple viewpoints period (senior high school); and the mature, "world view" stage (college/adult years). The interrelations of the stages are discussed, as are their possible conceptual applications to reading research, reading difficulty, and reading diagnosis. A transcript of audience and panel discussion on the paper and its implications is included (RL)

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The Great Debate: Ten Years Later, With a Modest Proposal for Reading Stages

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The Great Debate: Ten Years Later,
With a Modest Proposal for Reading Stages

Jeanne Chall

This paper has a dual purpose. In the first part I will present some of my thoughts on the effects on reading theory and practice of Learning to Read: The Great Debate, the Carnegie Corporation supported study published nearly 10 years ago. In the second part, I will present my preliminary thoughts on a theory of reading stages--a developmental scheme that I have been working on over the past several years. Hopefully, it may prove useful in understanding the reading process, how it develops, and how it is affected by environmental factors. It may also help explain the periodic controversies we seem subject to, particularly with regard to early reading.

In a real sense both parts are related, since the beginnings of the reading stages were already presented in The Great Debate. Indeed, as stated then, I could make no sense out of the conflicting experimental results from comparisons of different beginning reading methods without hypothesizing developmental changes in reading by age and grade of pupils for the different components of reading--within the different methods--oral reading, silent reading comprehension, word meaning, etc. Thus, while some methods seemed to produce an immediate, early advantage on some components of reading, other methods seemed to be more effective when comparisons were made at a later date.

Our explanation for this was that essentially the facts of beginning reading fitted better a developmental rather than a single-process theory. That is, the results of the school and laboratory experiments we analyzed as well as the clinical findings seemed to indicate that the first task in learning to read was learning the relation between sounds and letters--

decoding. The second task was reading for content and meaning. The single-process theory, the more prominent during the early 1960's, viewed beginning and more mature reading as essentially the same. Thus, meaningful reading was to be emphasized from the start.

Part I--The Great Debate: Ten Years Later

I will be concerned primarily with the impact of our findings and recommendations on the major issue studied--the effectiveness of a decoding versus a meaning-emphasis for beginning reading. The impact of the other related issues studied (the effect of knowing the alphabet and sounds on reading achievement, early versus later reading, content of readers, testing of pupils, grading of materials, and research in beginning reading) will be referred to, if at all, in passing.

Before proceeding, I should like to say that I approached this assignment with a little less than unalloyed joy. How can one be objective about the impact of one's work? Is it possible to be objective about the impact of a book that became, according to the publishing industry, a best seller in education in a few months, and the subject of educational conferences and symposia (Versacci and Larrick, 1963; Burrows, 1968)? At the same time it was reviewed with a little less than delight by some recognized reading scholars, but glowingly by equally recognized scholars somewhat outside the field. The controversy has now died down, and it has become one of the required readings for graduate students in reading and language arts, for undergraduates preparing to be teachers,

and is included in the professional book collections of most elementary schools.

I hope you will not judge these remarks as signs of glaring immodesty. Yet it does seem important to mention that in the nearly ten years since publication, the basic recommendations, even the terminology, have become part of the theory and practice of beginning reading to such an extent that the attributions are now omitted in most journal articles. The issue itself has become so much a part of the scene, that it is not uncommon to find an article in recent issues of The Reading Teacher proclaiming that there is more to reading than decoding and meaning. Also, that there is more to a reading program than whether it has a code-emphasis or a meaning-emphasis. I do not, of course, imply a cause and effect relationship. The Great Debate was part of a trend—in research, in curriculum development, in classroom practice.

The impact of the book seemed to be first among users of research knowledge—authors and publishers of basal reading programs, producers of software for programmed instruction and for multi-media programs, and authors and publishers of reading tests.

Another group that gave it early attention was, I think, the researchers. During the late sixties and early seventies, there were probably few grant proposals for research in reading that did not cite it. It was often used as a backup to the statement that the research in reading was less than satisfying, but could be improved with the funding of the project under consideration. It played a more active role in the rationale and, I believe, also the planning of USOE's Targeted Research Studies in Reading (Davis et al.,

1971; Corder, 1971). Although some of the widely used R & D reading projects were started earlier, or about the same time, I believe that it had an impact on the more recent ones. Altogether, as were the ones developed in the 1960's, the later ones focused on a code emphasis for beginning reading.

Its impact on teacher education came later. But it came. One of the effects was more extensive sections on decoding in new textbooks on the teaching of reading and in revisions of older, standard textbooks. Another effect was the inclusion of descriptions of different methods and approaches to beginning reading in methods textbooks and in separate books. Generally, the strong consensus for a single-process, meaning-emphasis approach was broken.

Where are we now on issues studied in The Great Debate?

Our finding on the issue of code-emphasis versus meaning-emphasis was that in spite of the shortcomings of the individual research studies, if one examined them developmentally, i.e., by successive school grades and on different components of reading, the code-emphasis programs produced the better results, at least through Grade 3. With many qualifications and reservations, we recommended a change from a meaning to a code-emphasis for beginning reading programs. Most of the then widely used beginning reading programs had a meaning emphasis.

It would seem that ten years later, code-emphasis beginning reading programs are the predominant ones among commercially published reading

programs. They are also the style for beginning reading programs produced by the major R & D Centers.*

Helen Popp's (1975) analysis of beginning reading programs published since 1967 finds, in general, a stronger decoding emphasis. Thus, while we found in our analysis that the first grade basal reading series published in the late 1950's and early 1960's taught consonant sounds and blends, and perhaps consonant digraphs, Popp found that first-grade reading programs published in the late 1960's and early 1970's taught all of these, and in addition, vowels, vowel digraphs, diphthongs, vowels controlled by r, l and w, and simple compounds.

This does not, of course, mean that the meaning-emphasis programs have disappeared. There are still strong proponents of meaning-emphasis beginning reading programs. One of these proponents, Kenneth Goodman (1969), who also serves as one of several authors of the most popular meaning-emphasis reading program, the Scott-Foresman Reading Unlimited, emphasizes the meaning aspect of beginning reading:

Instead of word attack skills, sight vocabularies, and word perception, the program must be designed to build comprehension strategies Children learning to read should see words always as units of larger, meaningful units. In that way they can use the correspondences between oral and written English within the semantic and syntactic contexts.
p. 32

Although the Scott-Foresman program may still be classified as having a strong meaning-emphasis beginning, it is important to note Popp's observa-

*Although some of these R & D reading programs predated the Great Debate, it is of interest to note how many depend on heavy decoding in their initial instruction--Wisconsin Design, Venesky Pre-Reading, Pittsburgh Individually Prescribed, SWRL Communication Skills Program (Ginn and Co.).

tion that exercises that most reading programs classify as decoding exercises, are, in Scott-Foresman, indexed under comprehension. Thus, "Letter-sound relationship cues" are listed there under "comprehension strategies."

The almost universal acceptance of decoding as a major objective for the primary grades is seen as well in recently revised standardized reading achievement tests. The 1971 revisions of the Metropolitan Achievement, Primary I and II, each have a subtest called Word Analysis added to the traditional subtests of Word Meaning and Paragraph Reading of earlier editions.

Perhaps the greatest impact of the Great Debate was on Sesame Street and The Electric Company. Both of these shows produced by Children's Television Workshop accepted, after much discussion and deliberation by advisory committees*, decoding as a major focus for teaching beginning reading. Millions of preschoolers and children in the primary grades have learned the names of the letters, the relation of letters to sounds, and how they are combined to form words. The popularity of these shows (about 7 million watch Sesame Street and about 5 million The Electric Company) and their wide use in schools, particularly The Electric Company, helped, in turn, to legitimize this practice among parents and teachers.

It also seems to me to be a tenable hypothesis that these shows, particularly Sesame Street, put an end, for the time being at least, to another controversy current during the 1960's: whether it is better to give earlier or later reading instruction. It would seem that the results which millions of parents saw from early reading instruction on Sesame

*The present author has been on the Advisory Board since 1968.

Street and The Electric Company were satisfying enough to be accepted by them. This in turn reverberated back to the schools. With the exception of some Piagetian theorists (e.g., Furth, 1974; and Elkind, 1965) there seem to be few serious proponents of later reading instruction at the present time.

I cannot emphasize enough that changes in educational practice do not come from one research report alone. Indeed, there were other researches in the air during the late 1960's that contributed to the general ferment and to the impact of The Great Debate.

The 27 USOE First Grade Cooperative Reading Studies (Bond and Dykstra, 1967) comparing various methods in the first grade (many were continued in the second grade and somewhat fewer through the third) concluded in the same general direction, although there was much difference of opinion* on this (Stauffer, 1966). One of the findings of The Coordinating Center (Bond and Dykstra, 1967) was that basal reading programs supplemented by separate phonics programs produced better results in reading at the end of Grade 1. There was some loss in the advantage at the end of Grade 2 and the few studies that continued till the end of Grade 3 seemed to find few if any differences at that point. However, Dykstra, (1968) one of the project coordinators, found after a reanalysis of the data, an advantage for the code-emphasis methods through Grade 2. In a later report, he concluded even more strongly for the efficacy of a code - as compared to a meaning-emphasis in beginning reading. (Dykstra, 1974)

Would my conclusion regarding the benefits of a code-emphasis be the same today--after "10 more years of research?" I would tend to say yes, since I do not see any viable data to disconfirm it. I am aware of the review by Corder (1971), one of the USOE Targeted Research Studies in Reading. The review included methods' comparisons published since 1967,

*Some interpreters focused on the large differences within methods, concluding that the teacher was the most essential factor. This observation was interesting since only one of the 27 studies (Chall and Feldmann, 1966) studied the direct effect of the teacher.

as well as those covered in our study. They were much stricter in their criteria for including a study, using the Gephart procedure (1970). The overall conclusion was that there can be no conclusion. "It is clear that the present body of literature is too incomplete, too fragmented, and too often conducted and reported on too general a level to be very useful." (Corder, 1971, p. 137)

Admittedly, our criteria for including and excluding research was not as strict as Corder's. We were perhaps more motivated by a desire to make rational the basis for practical decisions in beginning reading instruction than for evaluating the nature of the research design. If one's task is to help those who must make the practical decisions, then one hesitates to conclude that we wait another generation or two for better research. Indeed, one does the best with what one has.

With regard to the possibility that an initial gain "washes out," the following hypotheses raised by us in The Great Debate in 1967 seem appropriate also for today.

Whether an initial code emphasis keeps its advantage in the middle and upper elementary grades, and later, depends on how reading is taught in these grades: how much the reading program stresses language and vocabulary growth and provides sufficiently challenging reading materials. If the reading programs are not challenging enough in these respects, the early advantages will probably be dissipated.

Chall (1967) p. 138

Part II--A Modest Proposal for Reading Stages

With the issue of the "washing out" of early advantages, I come to the second part of the paper--a brief introduction to a scheme on develop-

mental stages for reading.

My current thinking and work for the past several years has been concerned with this scheme, which to a certain extent, picks up where I left off in The Great Debate and in a later paper (1969).

Essentially, as I found then that I could understand the conflicting results from earlier studies only by hypothesizing a developmental model of reading, so now I find that the scheme can help answer some additional crucial questions. The first is the almost persistent finding that early advantages in reading scores, because of improvements in method or other changes, do not seem to hold up (Bond and Dykstra, 1967; Corder, 1971). With a greater understanding of how reading changes with chronological age and maturity of skill, and the kind of practice that would be needed with these changes, it may be possible to find viable explanations for not maintaining the initial advantages.

The second body of data that I hope it will be able to explain is the strong association of reading test scores with family background factors. The knowledge about this association has existed for hundreds of years but took on a new imperative with the publication of the Coleman Report (1966) and the more recent IEA Study of Reading Comprehension in 15 countries (Thorndike, 1973). This relation is so strong that once it is put into a matrix, it is difficult to find a significant relationship for any other factors, particularly school factors. The potency of general background factors appears even stronger in the IEA reading study, where it was found that children in developing countries achieved only about a half of the reading maturity of children in developed countries at the same age and years of schooling. A developmental model of reading

might help explain, at various points in the child's life and in the development of his reading skill, the influence of non-school as well as school factors.

The following pages present a brief introduction to reading stages, a brief delineation of the Reading Stages, and suggestions regarding the values of the stages for research, for instruction, for evaluation, and for understanding the reading process and how reading develops.

Introduction to reading stages

Although I tend not to refer to the reading stages as a theory, I do hope it will lead to questions that can be either confirmed or disconfirmed. I am hopeful, too, that it can help predict and control. I feel more comfortable about calling it a model, and even better, a scheme—a scheme for arranging facts from existing basic and applied research, from the wisdom of experience in the classroom and clinic, and for planning new research.

The focus of the scheme is on what goes on in the individual and in the environment to bring the reader through the various reading stages to maturity. My major concern is with how reading develops, how it evolves from its primitive beginnings to its most mature forms. How, in essence, does the reader change as he proceeds from the Cat in the Hat to the financial page of the New York Times?

The scheme is frankly macroscopic, but hopefully will permit a tie-in with microscopic data and views. It does not hope to explain what happens to reading in a second or in a minute. Such a conceptualization of reading is similar, I think, to classic germ theory in biology and medicine. This scheme is, I think, closer to a public health model.

While many diseases do come from germs and viruses, the latter model assumes that much of it can be prevented and alleviated by providing healthful, benevolent environments.

I will not dwell on whether the "germ" or "public health" model will prove more useful for the theory and practice of reading. I wish only to say that environmental factors are only recently gaining attention in studies of the effects on achievement of teacher-pupil interaction (Chail and Feldmann, 1966) and different classroom organizations (White, 1973; Stallings, 1976; Bloom, 1976).

The presentation to follow is only a brief introduction. Because of space limitations we cannot present findings on relevant research on reading stages. We are still at work on the relationship of the stages to follow with those from Piaget and other developmental schemes such as those of Kohlberg, Erikson, and Havighurst. We have already made considerable analyses of the reading development models of Gray, Gates, Russell, and others. These will be presented at a later date.

Instead, I present now, those aspects of the scheme that will convey the idea of our present quest.

Background of the Scheme

As will become clearer later, I owe much to the work of Piaget--for his theory of stages as well as for his stages of cognitive development. I owe also a debt to Peter Wolff's monograph (1960) comparing Piaget's developmental theories to those of Freud and psychoanalysis. Also influencing my thinking were Kohlberg's stages of moral development

and Erikson's of social development.

With regard to the advanced reading stages, the greatest influence came from William G. Perry, Jr.'s (1970) study of the advanced intellectual and ethical development in the college years.

While all of the above were influential, my major focus from the beginning was on reading development. My own earlier work on readability (Chall, 1958) was a strong influence, as was my more than twenty-five years of experience as a clinician diagnosing and teaching children and young people with severe reading disability. The unsolved problems I found while researching for Learning to Read: The Great Debate became the most recent impetus.

Generally, although the present scheme was "pushed off" by the Piagetian stages and by Wolff's analysis, my objective has not been to confirm or disconfirm Piaget's general cognitive theories for reading. Instead, I have sought in his work and in the work of other "developmentalists," ideas and methods for developing a scheme that would be of value for understanding reading. Following are some of the hypotheses we have been generating:

1. There are stages in reading, similar to Piaget's stages of cognitive development, that have a definite structure, that differ from each other in qualitative, characteristic ways, and that generally follow a hierarchic progression.

2. Reading is, at all stages, a form of problem solving where the reader adapts to his/her environment (as per Piaget) through the processes of assimilation and accommodation.

In assimilation, he reacts by absorbing new situations to his existing cognitive structures. In accommodation, he changes in reaction to a series of challenges in his environment.

3. The individual progresses through the stages by interacting with his environment--the home, the school, the larger community and culture.

4. Measures of having reached a given reading stage will add a further, useful dimension to standardized, norm referenced as well as criterion referenced testing. Such measures will add to a theoretical understanding of how reading develops, and to the technology for effecting intensified improvement for those who need it.

5. The successive stages mean that the reader is doing essentially "different" things in relation to printed matter, although the term reading is used to describe each of these stages.

In line with the underlying differences in the reader's method of problem solving as he/she proceeds through the stages, differences should show up in such classic measures as eye movement fixations and regressions, eye-voice-span, rate of silent and oral reading, mastery of phonic elements and generalizations, relative efficiency of oral and silent reading comprehension, etc.

6. The successive stages are characterized by growth in the ability to read language of greater complexity, rarity, technicality, and abstractness, and with a change in how such materials are viewed and used.

7. The successive stages are also characterized by the extent to which prior knowledge is needed to read and understand the materials. The more advanced the reading stage, the more the reader needs to know

about the world and about the topic on which he is reading.

8. At each stage readers show characteristics that, if continued too long, may prevent the development of the next stage. Thus, if the accuracy and analysis (and synthesis) needed during the decoding stage are not succeeded by reading experiences that require a faster pace and a greater reliance on context (Stage 2 - Confirmation), there may be a holding on to the success of the earlier stage. Similarly, if the child is not challenged with the demands of accuracy in gaining new information as required by Stage 3, he may persist in the less accurate, more contextual reading of Stage 2.

9. Reading has an affective component. The child's attitudes toward reading are related to those of his family, his culture, and school. At certain points in the development of reading, full engagement with the content and with the process are required. Thus energy and daring and courage are some of the aspects of developmental changes.

The Stages

We present below, the reading stages. The ages and grades given for the different stages are to be considered approximations, hypotheses, based on typical current educational practices and achievements. Some individuals may achieve a level of reading characterized here as Stage 3 at age 6. Others may not achieve it until age 12, or later. How many reach Stage 5 with current educational practices is not known, but that more sensitive and systematic instruction can help bring it about among

many more than at present seems strongly possible (Sloom, 1976).

Only a brief presentation of the Prereading Stage will be given to permit a fuller treatment of the reading stages--Stages 1 to 5. In reality, some of the more advanced aspects of the Prereading Stage overlap with early aspects of Stage 1. One of the characteristics of Stage 1 is becoming conscious of what was acquired incidentally during the Prereading Stage.

Prereading stage--Preschool to Kindergarten, Age 0 to 6*

The Prereading Stage covers perhaps a greater period of time and undergoes a greater series of changes than any of the other stages.** From birth on, until first grade, the child living in a literate culture with an alphabetic writing system accumulates a fund of knowledge about letters, words, and books. The child also develops visual, visual-motor, and auditory perceptual skills needed for tasks in beginning reading, Stage 1. The children grow in control over language--the syntactic and semantic, as well as metalinguistic, i.e., they "know" that spoken words may be segmented, that the parts may be put on designated parts of other words, that some parts of words sound the same (rhyming, alliteration), and that word parts and sounds can be blended (synthesized) to form

*The original paper presented at the Conference referred to the existence of the Prereading Stage but did not elaborate. I was convinced that the additional detail presented here was needed by Michael Posner's discussion of this and other papers.

**I am indebted for this observation to Glenda Bissex who studied the reading and spelling development of her son from age 3 to 8 (Bissex, 1976).

"whole" words.

Although there is some disagreement among investigators as to whether individual characteristics or environment and experience are the more powerful in the development of the prereading skills and abilities, most agree that both are involved, and that an interactional model will prove the most fruitful for understanding and for effecting change (Feldman, 1976).

There has been considerable interest in and investigation of the prereading stage during the past decade (Durkin, 1966; Clay, 1966 and 1975; Sodebergh, 1971; Jansky & de Hirsch, 1972; Bissex, 1976). These investigators have identified the reading and writing activities engaged in by preschoolers, their problem solving strategies, the concepts of reading and writing they hold during their different phases of development on the way to beginning reading.

Thus it is widely reported that preschoolers today* can discriminate and name most of the letters of the alphabet. They can write (print) their names and some letters that are dictated. Some can even recognize common signs, or brand names on packages and on TV and words in favorite books.

Many 3 year olds can pretend they can read a book and reveal knowledge of essential concepts of reading: holding the book right side up, referring with a glance or finger(s) to the words on the page while "saying" the words, and using the pictures for demonstration and elaboration, and

*This was not so 40-50 years ago. Gates (1936) in his studies found less extensive knowledge of letters and sounds.

turning the pages one at a time. Many children at this age have also interiorized the universal features of writing and can, when presented with various approximations to writing, select one that most resembles writing (Lavine, 1972).

Extensive research on reading readiness and on early prediction and prevention of reading failure (Gates, 1936; Durkin, 1966 and 1974-5; Chall, 1967; de Hirsch et al., 1966; Jansky and de Hirsch, 1972) has demonstrated that the various abilities, knowledge, and skills acquired during the pre-reading stage are substantially related to success with reading at Stage 1.

Stage 1. Initial reading or decoding stage--Grades 1-2, Ages 6-7

The essential aspect of this stage is the learning of the arbitrary set of letters and associating these with the corresponding parts of spoken words. The qualitative change that occurs at the end of this stage is the insight gained about the nature of the spelling system of the particular alphabetic language used.*

While in this stage, children and adults interiorize such cognitive knowledge about reading as what the letters are for. How they would know that bun is not bug. How they know when they have made a mistake.

This stage has been referred to pejoratively as a "guessing and memory game," or as "grunting and groaning," "mumbling and bumbling," or "barking at print," depending on whether the prevailing methodology for beginning reading is a sight or a phonic approach.

The transition from Stage 1 to Stage 2 is most vividly illustrated

*The insights might well be different for ideographic languages (Maraini, 1973)

by Sartre's memory of how he "taught himself" to read. He recalls staying in the attic for hours, not responding to calls for play or meals, but persisting and struggling with his favorite book. He was determined to read it by himself. He was "barking" and "grunting" and sounding and struggling with the syllables for hours, till--what seemed to be a flash, an insight--he could read! He let out a roar, and ran down to the rest of the household shouting, he could read.

This great discovery--usually accomplished with relief and joy--but also with tears (Bissex, 1976), comes with more or less drama to most of us who become literate. It is a familiar one to teachers of the primary grades, to remedial reading teachers, to parents. On the surface, the child's reading does not seem to be very different, although it may be a little more fluent. On the usual tests of oral and silent reading, the scores may be the same. But his/her understanding of reading has taken on a new structure. It would seem, therefore, that new tests to capture this change would be necessary.

In a sense it is as if the child has recapitulated historically the early fumbings of the discovery of alphabetic writing, and to the equally, if not greater, intellectual feat of discovering that the spoken word is made up of a finite number of sounds. The work of Alvin Liberman and his associates (1967) makes this feat seem even greater. Since it is difficult to hear the same sounds when they are in different positions in a word or in different contexts (i.e., following vowels and consonants) a capacity for abstraction seems important even for Stage 1.

There are phases within Stage 1, which Biemiller's (1973) study of

first graders' oral reading errors seems to bear out. Among first-grade children who were taught by a sight method-emphasis, Biemiller found changes in oral reading errors that coincided with increasing ability in reading. Biemiller's first phase was characterized by word substitution errors, most of which were semantically and syntactically adequate. The second phase was characterized by an increase in no-responses, and by more errors that had a graphic resemblance to the printed word, with a loss of some of the semantic acceptability. In the third phase, there was a continued concern with graphic exactness but also a return to greater semantic acceptability.

All children seemed to move through these phases in the same order. The better readers progressed through them faster. The least proficient readers persisted in the first type of error--substitution on the basis of meaning and syntax. It was only when they appeared to let go of the "meaning" substitutions and worked instead on what the word looked like, that they made substantial progress.

The Biemiller findings seem to run counter to the psycholinguistic theories of Frank Smith (1971) and Kenneth Goodman (1969). If one applied their theories to the Biemiller data, would Phase 2 be rated as being of lower ability since the children were more "glued" to the print than to the meaning? Would they consider Biemiller's Phase 1 more advanced since the children made errors that were more semantically oriented? Indeed, Biemiller concluded that Phase 2, the greater concern with the graphic accuracy, is a necessary transition from the seemingly easy, smooth reading in Phase 3.

From still another view, it would seem that the children at Biemiller's Phase 1 were still engaging in a kind of "pseudoreading"--the "reading" common among preschoolers who retell a familiar story with the aid of a picture book, recognizing an occasional word, to help them remember the story. It matters little that the book is upside down or right side up.

The nature of the errors at Biemiller's Phase 1 suggests that the print at that time has only a minimal effect on reading. Reading for these beginning first graders was an "inside out" activity, which sounds very much like what mature readers do. They bring more to the printed page, as Edgar Dale has been emphasizing for many years, than they take from it (Dale, 1967). Thus, in a sense Phase 1 readers and mature readers seem to behave in a similar manner toward print. They do not stick closely to it. Yet, the mature reader can stick to the print if he wants to, needs to, or has to. His going beyond it is a conscious choice, one based on knowledge. The young child in Phase 1 reading has no choice. He must supply his own words because he does not know enough about how to get the author's off the printed page.

Thus in order to advance, in order to build up the skill for making choices, the beginner has to let go of his "pseudo-maturity." He has to engage, at least temporarily, in what appears to be less mature reading behavior--becoming glued to the print--in order to reach the "real maturity" later. He has to know enough about the print in order to leave the print.*

*This may be similar to the seeming maturity of the young child's art work. His finger paintings seem to resemble those of Jackson Pollack and his drawings may smack of Miro. Yet, can the child's works be considered works of art? Should he be discouraged from his later struggles with seemingly awkward horses and stereotyped houses? Perhaps reading, too, must go from what seems like a finished, rounded act at the beginning, to what seems more halting and dull in order to reach the maturity of choice and the finished, rounded act.

Stage 2. Confirmation, fluency, ungluing from print--Grades 2-3,
Ages 7-8*

Essentially reading at this stage is a consolidation of what was learned in Stage 1 through reading what is familiar and already known. And by reading familiar stories, smoothness and fluency are gained. At this stage, reading is "not for learning," which comes later, in Stage 3. Stage 2 is not for gaining new information, but for confirming what is already known to the reader. Since the content of what is read is basically familiar, the reader's energy can be concentrated on the printed words, and usually the most common, high frequency words. Also, with the basic decoding skills and insights interiorized in Stage 1, advantage could be taken of what is said in the story and book, and matching it to one's knowledge and language.

While some additional, more complex phonic elements and generalizations are learned during Stage 2, and even later, it appears that what most children learn in Stage 2 is to use their decoding knowledge, the redundancies of the language, and the redundancies of the stories read. They gain courage and skill in using context and with it gain fluency and a faster rate.

Relevant data regarding the reality of Stage 2 comes from the strong predictiveness of the reading achievement test scores at the end of Grade 3, as compared with those at the end of Grades 1 and 2 (Kraus, 1973). Kraus also refers to Bloom's (1964) data that by Grade 3, if a pupil scores significantly below the norms on achievement tests and does not receive special

*It is possible that Stage 2 continues throughout one's life and is characterized, among adults, by the reading of popular fiction, magazines, mysteries, some parts of the daily newspaper-reading from which one does not learn too much that is new, and that is not too exacting, but is confirming and satisfying.

help, he/she will continue to experience failure throughout the school years.

What kind of environment fosters the development of Stage 2?

Essentially it would require, I hypothesize, an opportunity for reading many books that are familiar--familiar because the stories are familiar, because the subjects are familiar, or because the structure is familiar as in fairy tales or folktales. At one time the Bible and religious tracts were familiar. Familiarity with the language patterns of these books also helps. Generally, the greater the amount of practice, the greater the immersion, the greater the chance of developing the fluency with print necessary for the new difficulty to come--the acquisition of new ideas in Stage 3.

The reality of Stage 2 may also be seen in the effects of adult literacy campaigns. A tenable hypothesis would be that Stage 2 is the main failing point of most adult literacy campaigns. The literacy campaigns here and in third world countries seem to find that although most adults can get through Stage 1, they begin to falter at Stage 2. Thus, reading of a newspaper and a pamphlet containing new agricultural information, which require at least Stage 3 reading, will be difficult or impossible for most. It would seem that the following explanation may prove useful. After the literacy classes complete their Stage 1 programs, there are not enough readable materials available, material that is familiar in language and idea for the "new literates" to gain the fluency of Stage 2. Nor is there usually a compelling need to keep reading.

For children of low SES* background, although a discrepancy is reported from prereading on, the gap seems to widen at Stage 2. The child

*SES is used here and throughout to refer to the usual kinds of experiences the children are exposed to in homes classified by the different socio-economic levels. We do not mean the income of home but the overall experiences and particularly the experiences relating to reading and literacy provided for the children (Bloom, 1976).

whose parents cannot afford to buy books, or whose own patterns of recreation and work do not include borrowing books and magazines from a public library, loses needed time for practice. If the parents do not read regularly to the child, development of language may be slower (C. Chomsky, 1972). Even more, the child loses out on the emotionally confirming responses that books and reading matter bring.

Stage 3. Reading for learning the new--from one viewpoint Grades 4-8(?), Ages 9-12 (?)

When the reader enters Stage 3, he/she begins to read for knowledge, for information--mainly for what is new--but usually from one viewpoint. In a sense, it fits the traditional conception of the difference between primary and later schooling. In the primary grades the children "learn to read." In the higher grades they "read to learn." It fits in the sense that during Stages 1 and 2 what is learned concerns more the process of relating print to speech than the relating of ideas in the text being read. Very little new is learned about the world from reading before Stage 3. More is learned from listening and watching. It is with the beginning of Stage 3 that reading begins to compete with these other means of knowing. But at the beginning of Stage 3 what can be learned from print is still less efficient than what can be learned from listening and from non-print media. By the end of Stage 3, it is hypothesized that reading may equal and begin to surpass the other media in efficiency as a means of gaining new information, particularly listening.

Although Stage 3 is primarily a "content" stage, a process is also learned--how one finds information in a paragraph, in a chapter, in a book. Also, how to go about finding what one is looking for, and efficiently.

It is significant to note that in traditional schools, the fourth grade, age 9, was the time for starting the study of the so-called subject areas--history and geography, natural science. The curriculum in the first three grades included the language arts, and math. The "content" subjects were not included until the child had mastered enough of the literacy skills to deal with the books necessary for learning about times and places removed from his/her direct experience.

The findings from the readability research of the past fifty years seem to fit the proposed stage (Chall, 1958; Klare, 1974-1975). Stage 3, which we propose as beginning at about the fourth grade, fits the data and experience about the distinctions between primary level reading materials and materials at fourth-grade readability level and above. The materials at fourth-grade level and higher assume a change in the person reading, as compared to the one reading primary level materials. The text begins to go beyond the elemental, common experiences of the unschooled or barely schooled. The materials read by those at Stage 3 contain more unfamiliar, "bookish" words that are usually learned in school or from books. Such words may be learned from TV, but probably from the public service programs. Further, to write even the simplest informative materials--materials that present ideas that the reader does not already have--a readability level of at least fourth grade is usually required.

Thus, while in the decoding (Stage 1) and confirming stages (Stage 2) the task is to master the print, with Stage 3 the task becomes the mastering of ideas. And because this is a task quite different from, and more difficult than, those of Stages 1 and 2, it can be done only in a limited

way. Thus I propose that for most children, Stage 3 reading means learning how to learn from reading, but essentially only from one point of view.

Stage 3 reading is also characterized by the growing importance that prior knowledge plays in reading. Thus, while the main purpose seems to shift from confirming the old (Stage 2) to learning the new (Stage 3), the need to know some of the new, if more is to be learned from the reading, becomes greater. The reader needs to bring knowledge and experience to his reading if he is to learn from it.

With the one-viewpoint aspect of Stage 3, the reading is essentially for facts, for concepts, for how to do things. Any reading for nuance and variety of viewpoint probably remains mainly in the reading of fiction. One may hypothesize that the time taken to progress from Stage 3 to Stage 4 relates to the many areas of knowledge needed in order to read and understand on the simpler level of Stage 3 and on the more sophisticated levels of Stage 4.

Stage 4. Multiple Viewpoints--High School, Ages 15-18

The essential characteristic of reading in Stage 4 is that it involves dealing with more than one point of view. In contrast to an elementary school textbook on American history which presupposes Stage 3 reading, the one at the high school level requires dealing with a variety of viewpoints. It is perhaps for this reason that high school textbooks are generally heavier and larger than those at the lower grades. Compared to the lower school textbooks, the increased weight no doubt can be explained by greater depth of treatment and greater variety in point of

view.

Stage 4 reading may be essentially an ability to deal with additional layers of facts and concepts added on to those acquired earlier. The "other viewpoints" can be acquired, however, because the first ones were acquired earlier. Without the single view of Stage 3, the multiple views of Stage 4 would be difficult to come by.

How is Stage 4 acquired? Mostly through formal education—through the assignments in the various school textbooks, original and other sources, and reference works in the physical, biological and social sciences; through reading of more mature fiction; and through the free reading of books, newspapers, and magazines.

Essentially, in dealing with more than one set of facts, theories, and viewpoints as in Stage 4, practice is acquired in learning ever more difficult concepts and in how one learns them from books.

Stage 5. A world view—College, Age 18+

Stage 5, the most mature stage, I take from William Perry's (1970) study of intellectual development during the college years. He contrasts a lower, quantitative approach to knowledge (our Stage 4) with a more relativistic, qualitative approach.

In our reports, the most difficult instructional moment for the students--and perhaps therefore for the teachers as well--seems to occur at the transition from the conception of knowledge as a quantitative accretion of discrete rightnesses (including the discrete rightnesses of multiplicity in which everyone has a right to his own opinion) to the conception of knowledge as the qualitative assessment of contextual observations and relationships

Perry (1970), p. 210

Essentially, Stage 5 reading means the ability to use reading as one of many forms of knowing and experiencing. One has, when Stage 5 is reached, learned to read as much or as little of a book as one needs to for one's purpose, starting at the end, the middle, or the beginning. A reader at Stage 5 knows what not to read as well as what to read. Thus, to reach this stage is to be able to use selectively the printed material in existence in those areas of knowledge central to one's concern.

Whether all students can reach Stage 5 reading even at the end of four years of college is open to study. There is some evidence, however, that more young people reach this qualitative, relativistic phase earlier than they did in previous generations (Perry, 1970).

Succession of the Reading Stages

Essentially, it is hypothesized that each stage presupposes skills acquired in the previous stage, generally subsumes these in some form, and in turn is subsumed by the next stage.

Thus, it is assumed that Stage 1, the decoding stage, is built on the skills, attitudes and knowledge developed in the Prereading Stage. This does not mean that a child cannot learn to read without the full range of prereading skills and abilities. Beginning reading programs have succeeded where children did not have these skills through modifications in the beginning reading program itself (Gates, 1937). Yet the existing literature on readiness does indicate that achievement on prereading factors is a good predictor of early reading achievement, at least through the end of Grade 2 (stage 1) Bond and Dykstra, 1967; Durkin, 1966 ; de Hirsch et al., 1966; Jansky and de Hirsch, 1972).

Stage 1, in turn, appears to be a necessary condition for Stage 2 in the sense that decoding tests have a positive and significant correlation with oral and silent reading tests (Chall, 1967; Walmsley, 1975; Chall, 1976).

Since these standardized reading tests cannot use only words and phonic elements that are taught specifically in each child's reading program, it is a tenable hypothesis that mastery of Stage 1, and particularly the ability to identify words not directly taught, are necessary for proficiency with Stage 2.

Although Stage 1 becomes subsumed by Stage 2, decoding does not stop altogether. The learning and use of correspondences between spoken and written words continues in Stage 2 and other stages. It is used for new proper names and for new words not immediately recognized. This, in fact, continues also during Stages 3, 4 and 5. In Stage 5, particularly, decoding is used for reading foreign names, for new technical words, and for the reading of a new alphabetic foreign language. Indeed, it would seem that a Stage 1 type of reading was needed to break the Rosetta Stone—although probably all who tried did most of their reading on Stage 5. Thus, although the general character of reading changes with each succeeding stage, the characteristics of previous stages remain for use in situations that require them.

It is also a tenable hypothesis that typical literacy behavior does

not stay on one stage only. Those who use Stage 5 for study and work may relax with a mystery at Stage 2.

Stage 3, reading for information, the first stage of reading to learn, presupposes use of context, fluency and natural reading that is acquired in Stage 2. If these characteristics are not subsumed by Stage 3, the energy required to concentrate on the new concepts, the new names, the new facts would not be available. It would seem that only when the fundamental decoding skills are achieved (Stage 1) and fluency has become habitual (Stage 2) can one use reading as a tool for learning, even when the new learning is relatively straightforward and unencumbered by a variety of viewpoints and subtleties. Since Stage 3 reading requires accurate attention to facts and details, the decoding skills of Stage 1 are still used. And since it requires a confidence to move ahead even if a word or idea isn't gotten immediately, it makes use of Stage 2 fluency. Also from Stage 2 comes the important insight that the reading can make sense if the reader fills in words not gotten by decoding.

In a similar manner, Stage 4 subsumes Stage 3 and the others. It would seem that knowing one view of a subject or topic would make it more likely that a multiple view can be developed; and from a multiple, to a world view.

Values of a reading stage theory

1. For research

I think stage theory might help prevent some of the persistent contro-

versies that seem to occur in the field of reading research and practice. The research in reading seems particularly subject to misunderstandings. It is not uncommon for investigators to disagree over the meaning of reading, when each seems to be concerned with a different stage of its development. The proposed stages might help clarify what is or is not being studied.

The reading stages may also help provide a framework for analyzing and synthesizing various models of reading. Thus, it would appear that the psycholinguistic theories of reading by Smith (1971) and Goodman (1976) would start with Stage 2. There appears to be no provision for a decoding stage and little concern for the kind of accuracy required in technical and scientific reading. Indeed, it is often suggested in their theories that decoding "holds back" reading for meaning and that reliance on context for recognition of words and meanings is the "ideal" reading strategy at all points of development.

To a great extent, their theories, when applied to beginning reading, resemble the sight and sentence methods of the past, and the language experience method of the present. According to these models, there is only one reading--reading for meaning--essentially the same at the beginning as at the highly skilled level.

Stage theory may add to our knowledge of what it is that happens as the individual learns to read at an ever-increasing level of maturity. Although we use only one word--reading--for what happens at the various stages, important quantitative and qualitative changes take place.

Measures to show quantitative changes already exist--the standardized reading tests for measuring the abilities of readers and the readability formulas for measuring the difficulty of the reading materials. In a real sense, these measures are similar to existing measures of mental ability. They too measure growth in maturity in terms of ages or grades.

Such quantitative estimates have their value in that they can help effect a match between reading materials and readers. They also help determine whether progress has been made from year to year.

What such tests lack, however, is the ability to inform the researcher or teacher, or clinician about the specific aspects and components of reading that have been mastered, and those yet to be acquired. Thus, similar to most intelligence tests, no provision is made for translating the scores back into broader, qualitative, descriptive terms of the reading process that suggest the necessary next steps for instruction and practice. This is particularly important in providing for the millions who are seriously retarded in reading. It would help to know, for example, what an eighth grade reading level on a standardized reading test means when an eighth grader, a tenth grader, a twelfth grader, a college freshman, or an adult seeking a high school equivalency certificate achieves it. Can such a score assume a mastery of decoding, of fluency, of reading for facts and concepts? It would seem that tests of these different qualities would help us in research and in practice.

2. For instruction

Reading stages can contribute, I believe, to a better understanding of how reading is acquired and how the total environment as well as the school environment and instruction may be optimized for pupils at the different stages. Thus it would appear that children who enter first grade at the beginning of Stage 1* should have more specific and systematic instruction than those who have made some inroads into decoding. This is because decoding at the beginning is usually not self-generating, especially when the child has not yet been able to generate letter/sound rules on his/her own.**

The degree of direct teaching at Stage 2 would be relatively less than at Stage 1. But there would be a need to encourage wide reading, and the classroom would need to contain lots of interesting books easy and familiar enough to invite reading, and to provide the time and the atmosphere to read them.

If Stage 3 has been characterized properly, then it would seem that the focus of reading instruction in the middle grades should be on the textbooks, reference works and other sources in the subject area fields. Thus, one may, in a nightmarish mood ask whether the recent professional success of the reading field that has contributed to extending

*Many children entering Grade 1 are past Stage 1 and well into Stage 2 since Sesame Street and The Electric Company, and the general acceptance by parents of the efficacy of early reading.

**There are, of course, children who invent their own spelling systems and who seem to teach themselves to read (Chomsky, in press; Read, 1971; Durkin, 1966). These children, I believe, are exposed to much "literate" stimulation, and receive a great deal of reinforcement for these activities. These conditions are not met in most homes in the United States.

reading instruction to the later elementary grades and even to the high school, has brought with it the gains expected? Could some of the recently reported declines in reading standards at the higher grades possibly be attributed to the fact that during the reading instruction periods, the "reading reading" period, mostly fiction is read, while Stage 3 requires the reading of factual materials, which require exactness in reading and in recall of names, places, and ideas. Such exactness is not needed for most fiction. Thus, while in Stage 2 reading it matters little whether one knows that John Doe or John Poe is the hero, it does matter that the third President of the United States was Thomas Jefferson and not Samuel Jefferson.

Essentially, then, a qualitative, developmental way of looking at reading may give us a useful set of questions to ask, particularly about the failure points. Indeed, we may ask, why has there been consistent "failure point" reported for Grade 4, the point of transition between Stages 2 and 3? The questions could be directed specifically to the appropriate challenges and instructional strategies for effecting a transition to the next stage. Thus, the concept of proper match or challenge, a concept used in reading instruction since the early 1930's, might gain a fresh look.

The importance of an appropriate match for reading instruction has been accepted for years. Most methods textbooks propose three levels for each pupil--an independent level for easy reading; an instructional level for sufficient challenge; and a frustration level that is too difficult. While specifications are given for determining whether given material is appropriate for instruction or for independent reading, there is little hard data as to whether the independent level does in fact lead

to more comfortable independent reading, and whether the instructional level does in fact lead to more learning. There is some work by Bormuth that attempts to determine at what readability levels different amounts of information are acquired (Bormuth, 1975). There is also an early study by Gates (1930) on the ratio of "new" to "running words" in first grade reading materials that leads to the best learning for children of different levels of intelligence. It is significant that few, if any, such studies have been done since that of Gates.

The records on the production of reading programs by R & D Centers should provide some of the necessary data--especially for Stage 1. See Popp (1972) for such information on one of the Pittsburgh reading programs; Atkinson (1970) for the computer-aided beginning reading program at Stanford; the SWRL reports on the Communication Skills Program; the Wisconsin R & D Center Reports for the Wisconsin Design program and the Venezky Prereading Skills.

Most of the current empirical data are relevant mainly to Stage 1, decoding, and perhaps the stage immediately preceding it--the prereading stage. Relatively little empirical data are available for Stages 2 and beyond, with the exception of the miscue analysis data collected by Kenneth Goodman and his associates.

3. For test results

Reading stages can help provide the broad general principles of the development of reading needed in order to construct meaningful criterion referenced tests, diagnostic tests, and prescriptive programs.

When some test publishers claim to measure the "379" reading compre-

hension skills needed by fourth graders, one wonders whether some of the current technology designed to help teachers isn't going to lead to a general state of paralysis. Yet tests are needed and schools, at least, if not teachers, seem to be ready for criterion referenced tests and other tests of mastery.

It would seem that an understanding of what distinguishes reading at the various stages of development would be one of the essentials for selecting the crucial subtests and items. Norm referenced tests could also benefit from a better knowledge of the qualitative changes in reading (Auerbach, 1970).

4. For studying "literate" environments

Stages can lead to systematic study of the "literate" environments in school and at home that foster stage development.

Availability of books is recognized as essential for growth in reading. Are books more essential for some stages than for others? A tenable hypothesis is that availability of books is particularly essential for growth at Stage 2 and beyond, but not as much for Stage 1.

5. For studying the effects of classroom environments

Stages may also prove useful in studying the effects of different kinds of classroom structure and organization.

One might hypothesize that for Stage 1, where the children have not already learned letters and sounds and do not have insight into the fact that the two are related, much has to be taught directly and practised systematically. For children who are learning such things, one can hypothesize that a more structured learning environment might

lead to more definite gains than one where the children work on their own more and are expected to discover their own generalizations (White, 1973; Stallings, 1975).

However, where first graders already come with considerable knowledge and insight about decoding, they may well make better progress in an open, unstructured learning environment. Generally, however, for children, and for adults in literacy classes who are at the beginnings of Stage 1, more structure and direction than during Stage 2 is probably needed.

Stage 2'ers may thrive more under an open and self-regulated environment since enough of the decoding elements and insights have been learned to engage in what appears to approximate "real reading." It can also be hypothesized that Stage 2 strategies, introduced lightly and playfully while the reader is still concentrating on Stage 1, would be a useful way to encourage the transition between the stages. Indeed, a "This is ahead of you--it is to come later--but let's try it now with no prejudice" approach may be one of the ways to help students make other transitions as well.

This may, in fact, be one of the least painful ways to effect a transition from one stage to the next. A playful tryout of the next stage may encourage that familiarity that contributes to the pupil's confidence and courage. Indeed, particularly during the transition from Stage 1 to 2, much courage and daring are needed. Stage 1 success is assured if the elements and generalizations are learned and applied, in a controlled environment, on worksheets, workbooks, and very simple stories.

But Stage 2 means selecting books, being unsure of some of the words, getting confused, being uncertain. The books may be simple, but when all the words in these simple books are added up, they form quite a load of words--in the thousands. Thus, if the reader during Stage 2 goes outside the required text materials, something unexpected will be found that requires confidence, courage, and persistence.

Despite the success with books during Stage 2, it would seem that some direct instruction may again be needed for Stage 3 where the emphasis is on acquiring new knowledge--exact knowledge. And with the acquisition of exact knowledge comes a need for a more extensive vocabulary and ways of learning these from dictionaries, encyclopedias and other references. It is at this Stage that the old yet new question arises: Who should do the teaching of reading--the reading teacher or the subject matter teachers?

6. For those who have difficulty with reading

The stages may help us gain a better understanding of the reading and other educational problems of those who experience persistent difficulties--those who have reading or learning disabilities; and those whose retarded reading is attributed to their lower educational, social, economic and/or their minority status, and/or their being bilingual.

With regard to hypotheses within stage theory regarding the poor reading performance of children with reading and learning disabilities, it is well to note that the basic characteristic of the reading/learning disability children is the significant discrepancy between their reading achievement and their mental ability. They do not generally have problems

in understanding or producing language. At the risk of oversimplifying the complexity of their problems, one may say that generally their ability to derive meaning from print lags significantly behind their ability to get it by other means. Their difficulty is usually not with the understanding of ideas and language. If they have difficulty with language, it is with its metalinguistic aspects--sound discrimination, segmentation, blending, sequencing.

Experience from clinics and classrooms indicates that reading and learning disability children have great difficulty with Stage 1, with decoding and also with Stage 2, fluency. Indeed, the more severe the reading and learning disability, the more there seems to be a problem with decoding and fluency (Chall, 1967; Chall, 1976).

Compared to children of their chronological and mental age, their transition from Stage 1 to Stage 2 is more difficult and takes longer. It takes a long time before they are comfortable with even the simplest book. They seem almost glued to the print, or still guess wildly.

The difficult transition from the decoding to the confirmation stage was noted by many of the early investigators of reading disability--Gray, Gates, Orton, and Fernald (Chall, 1967). This problem continues to be of concern. Samuels and his associates have been developing techniques for effecting this transition, and toward "automaticity" (1975-76).

An overlong stay in Stage 1 is also serious for a child when the rest of his class moves into Stage 3, and he cannot cope with it. Thus, some provision needs to be made for the pupil's continued conceptual and informational development which, in most schools, comes primarily

from written materials. If this is not provided while the pupil is learning to read on a lower level, deficiencies in his cognitive development--information, vocabulary and meaning--will ensue, although his original problem was with the decoding rather than the meaning components of reading.

Hypotheses within stage theory regarding the poor reading performance found among low SES*children suggests that Stage 1 should present the least relative difficulty among low SES children in comparison with the general population. Although these children will probably be "less ready" at age 6 than those from the middle class and particularly the upper middle class, with good instruction, there should be little difference by the end of Grade 1. This is because what needs to be learned at this stage is specific, finite, and when learned, becomes self generative. It would seem that with good teaching, and a good program that provides direct teaching and an opportunity for much practice, there should be little difference by social levels. Indeed, such claims are being made by the authors and publishers of some of the new, highly programmed reading systems. See, for example, the SWRL Communication Skills Program, SRA's Distar, the Suppes-Atkinson Computer Aided Instruction Beginning Reading Program, and the Cureton Reading System.

The gap between low SES and middle class children, I would hypothesize, begins to widen at about Stage 2--the stage requiring much reading and daring, and ease about one's performance, since no teacher checks all of your reading, as in Stage 1. It would appear from autobiography and fiction that the most curious and lonely of these children persist in reading

*See footnote on p. 22.

through and beyond Stage 2. But with the advent of television, perhaps even the curious and the lonely may not discover books at this early age, since their needs for entertainment and curiosity are met by TV.

Stage 2 cannot be achieved from school readers and workbooks alone. To the extent that the school has great quantities of children's books and makes them available in school and out, to that extent will low SES children achieve as well as middle class children (Weber, 1971).

Stage 3 will also need great care. The language of the textbooks, encyclopedias and other informational books, being literary and "bookish," is more removed from the language of the homes of low SES children, and of lower middle class children. It would seem, therefore, that the necessary concepts and vocabulary, and the strategies for reading such books, will need to be taught. While it may be possible for most middle and upper class children to move smoothly from Stage 2 to 3—from the fluent reading of simple children's books to the reading of textbooks for the acquisition of new information—it is less likely for low SES, and even lower middle class children, since not only is the language more removed from their realities, but the content is as well. Beginning with Stage 3, knowledge of the world becomes a major factor in reading. It would appear that the children whose parents are closer to the world of power, knowledge, and science would have an easier time of it then.

Thus, in order for the less advantaged children to compete favorably with their more privileged peers, they must be helped to proceed through the stages. For success with Stages 3, 4 and 5, they must be helped to systematically improve their knowledge of words, facts, ideas—learnings

that their middle and upper class friends acquire around the dinner table, from the books falling from the family shelves, and from the magazines cluttering up the coffee tables. Since the opportunities for such learning cannot be provided by most homes of lower social status, it seems essential that the school provides them--and during the reading stages when they are most needed.

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OPEN DISCUSSION OF CHALL PRESENTATION

POSNER: I wonder how seriously we should take this idea of the necessity of the bumbling stage. That is, if we were capable of designing a curriculum in such a way that the child made no errors at all, would that be a mistake?

CHALL: What I mean by the bumbling stage is that the child "bumbles," even without making mistakes in word recognition, although rate will be slow, on oral reading tests there may be no mistakes, but there are a lot of articulatory and other supports. For example, they point if you let them, and they mouth the words before they say them. I think, in fact, that this bumbling helps children.

I see that our job is not to teach that first grader how to read smoothly at the very beginning, but to make it possible for him to progress to even more advanced levels. That is what we have to work on because I think the world is not going to sit back anymore. All parents want a good education for their children.

SHUY: I would like to pursue that just a little bit. If the bumbling is an appropriate acquisitional stage in reading, would you encourage the development of materials which would incorporate the bumbling as part of the acceptable pattern?

CHALL: It is not necessary. It's there. Just let the child read. There are now many diary studies on prereaders and on beginning readers that can help determine whether the mumbling and bumbling is natural.

SHUY: You don't feel that there is a need to develop materials that will incorporate this?

CHALL: No, it is already there.

SHUY: Right. So what you would need, then, would be to develop awareness in teachers, to know what that is. Is that what you are saying, a teacher-educational project?

CHALL: Yes. And also for ourselves, for linguists and psychologists who are working in reading. We also need to be aware of this. Many are not because their brilliant children may go through the bumbling and mumbling at 3 or 4, when the child is not thought of as really reading. By the time the child is in first grade, he is already at stage two.

SAMUELS: Jeanne, I was wondering if, in terms of your stage theory of reading, you might not agree that you might have three stages: a nonaccurate stage, followed by accuracy in recognition, which still isn't the stage that you are aiming for, followed by "beyond accuracy," or automaticity. Automaticity, when reading meaningful material, begins to take you into the stages of fluent reading. Perhaps we just have to realize that the student will go through those stages and can't magically, be brought to a "meaning stage" before he goes through some of the others.

Would you agree with that?

CHALL: Yes, I think so. You seem to be refining certain parts and giving them different labels. Yes, I could agree with that. The way I see it is that we catch a child at a certain point. We will have to devise tests to tell us what the point is. The existing standardized tests for reading do not get at some of these points, which I think teachers and others need.

GOODMAN: I think you are saying that regardless of how people are taught in the beginning, they all do seem to get through this first stage that you have described, and the problem is how far they get through the other stages.

Isn't the question, then, not how does beginning instruction get people through that first stage, but how does it affect whether they get farther along the way?

RESNICK: Ken, just for clarification, did she say regardless of how they are taught, they get through the first stage?

GOODMAN: That was my paraphrase. I think what Jeanne said was that everybody does get through it.

CHALL: Can I answer that?

My hypothesis is that they do; regardless of how they are taught, most do get through the first stage with the exception perhaps of some who have extreme learning disability. But this does not mean that how they are taught makes no difference. I do not say that instructional methodology does not matter. I think it does. Rebecca Barr has done some very interesting research on this. And I think my review of beginning reading methods in "Learning To Read" shows that there is a difference. Barr is doing it differently--trying to determine more specifically what is learned under a sight or a phonic method. Then, of course, particular children may find certain methods more agreeable than others.

Some of the evidence coming through seems to indicate that certain rather structured code-emphasis beginning reading methods are particularly beneficial for children from less advantaged homes. I think this needs to be explained.

Also, that some beginning reading programs, such as the Atkinson CAI program, I believe, result in fewer differences between boys and girls. That is, the boys seem to do as well on them as the girls. I think that too must be explained.

One other point needs to be made here. While the child is at one stage, he should be preparing for the next.

As he is learning to decode, for example, he should also have a little taste of doing the kind of reading he will do in the second stage. For some children, this is provided at home where almost everything he does in school is supplemented at home. Thus even if the school makes no provision for it, he begins to read little books at home, while in school he is on the "need to be" very accurate Stage 1.

KELLY: I am wondering, in your mumbling-bumbling stage, are you differentiating between what might be called learning difficulties and difficulty learning?

CHALL: My feeling is that the same things may pretty much happen to the child of 8 or 9 who is still at the beginning, the initial stage, as happens to the one who is first starting. But there aren't enough data on the nature of the errors.

I think Ken Goodman will be able to speak to that.

GOODMAN: It depends on whether you are looking at it or researching it.

CHALL: Yes, it is always such. Each scientist is concerned with different things.

GOODMAN: I just was sort of floored by Dr. Posner's question about whether you could construct an initial stage in which there were no errors.

I don't know who said it, but somebody said, "anything worth doing is worth doing badly," and I can't conceive of any kind of human learning, particularly language learning, that could possibly not produce error.

One thing that occurs to linguists and psycholinguists who are talking about it is the effect of risk taking on the learning process. That concerns me in terms of any initial concern for accuracy as a value for its own sake.

CHALL: That's great. I really got started after reading Peter Wolf, the psychiatrist, because I felt that with a purely cognitive view, you cannot explain reading. You cannot explain why some children make it, and others do not. It seems to me that is just what you said. To learn to read is to risk, to dare, to have courage, at all the stages, not only at Stage 1. In fact, for children who are initiated into reading by a highly structured code-emphasis program, where they learn specific elements on skills and are reinforced for accurate reading, less risk may be involved than in reading their first books. Now they have to "not get" every word and still understand what they read.

STICHT: I have three things, Jeanne. The first one is the question about your stages and some of the other questions here involved in that.

Do you consider these stages to be descriptive of performance, for which we need to look for underlying causes. That is, would you say the bumbling stage is an expression of the psycholinguistic guessing game, maybe, rather than something you want to teach for? How do you feel about these as being descriptions of performance, which we should then try to understand?

Second, do you really think that these stages are independent of method?

And then third, why isn't this a theory or model?

CHALL: Regarding your third question, I use scheme rather than theory or model in recognition of the work that remains to be done on it.

Regarding your first question, I really don't know if I can answer it specifically now.

With regard to your second question, I think to a certain extent method is always a part of reading development. But method is only one aspect of classroom and general school influences. And there are even broader influences on the environment such as the home, the mass media, the literate and general culture.

For example, Robert Thorndike reported from the IRA studies of 15 countries that in developing countries, if you go to school eight years, you only read on the average on about a fourth- or sixth-grade level, by the standards of the developed countries. If you go through the 12th grade, you achieve on a sixth- or eighth-grade level. And in our own population, why are some children in school for 12 years and end up reading only like 8th graders? I am making the assumption that the people in developing countries and the minority groups in the U.S. who lag behind in reading are not significantly less bright than those who achieve.

STICHT: The point I am trying to get to here, then, is do you construe your stages as milestones against which one would look at these other variables and try to see how they relate to these various levels of performance?

CHALL: Yes.

STICHT: But underneath these, there are some cognitive things going on.

CHALL: These are cognitive. You cannot do stage five unless you are able to do high level college work.

The point is: How do you start with children? I am starting on the assumption that what this country is looking for are ways to equalize opportunities in education. One of the main ways to make it possible is through literacy. And I don't mean just reading; I didn't go into writing, but it's definitely a part of the development.

FREDERIKSEN: When you use the word "stage," I assume you mean stage in the sense of a developmental sequence of some sort. You describe stage two as a stage in which you read not to learn but to confirm what you already know. Does this mean that you believe that if a child reads a Dr. Seuss story, the child already knows the content of that story?

CHALL: That's right. He knows it in the broadest sense. He may not know that particular story, but he knows others like it and is familiar with the language as well.

FREDERIKSEN: Surely, a child can't write down or describe the content of a story before he reads it?

CHALL: You are right. Specifically, you can't. But in a general sense, you can. Children know nursery rhymes and fairy tales and other children's stories

that have been read to them from the preschool years on. The Dr. Seuss books would fall into that category. When the child reads them himself, they are quite familiar to him. Perhaps not the specific, new story, but the general form.

FREDERIKSEN: The reason I ask that is that I would regard the stages you described more as a reflection of the way in which reading is taught, than as a representation of any kind of invariant stages of development.

CHALL: No, I didn't say "invariant."

FREDERIKSEN: Well, I used the term "stage" as referring to the same breadth as Sticht.

CHALL: It may be, but I think it is probably broader than that. If you include in the way reading is taught the general literary environment--the availability of books, the emphasis on reading in the home, the school, and in the general culture--then I think we would be closer to explaining the environmental influences of the stages. Whether the stages are invariant and whether they develop in the order I proposed is to be determined.

FISHER: Recently I was speaking to some reading teachers about this, and I noticed when you went through your stages, you didn't tie in any age frame or time frame.

CHALL: Oh, I have them, but I did not refer to them in reading the paper.

FISHER: Okay. There is an important question that comes up, one that teachers

like to point out, and that is that when they experience kids who have difficulty for long periods of time, for example, on the initial decoding stage, when is it appropriate for teachers to take the kids out of their classroom group and send them individually to remedial training?

CHALL: The answer to that comes from knowledge we have already. There is considerable knowledge on reading disability and treatment and on when to refer. The sooner the better. Where there is money, you begin to make the referral by the middle or end of first grade, when you see the child is having difficulty. He or she usually ends up in less trouble in the long run, and it is cheaper also in terms of the amount of treatment that has to be given. Many schools have been doing early testing of kindergarten children or preschoolers to identify those predicted to have early failure.

FISHER: There seems to be some social feedback. You take the kid out of his special group; he no longer gets peer approval; he's not part of the peer group any more; he becomes a separate entity, and he is reluctant to participate. They would rather stay in the class and do the kind of things the other kids are doing, even if it means bumbling along. Is there a way in which to change his attitude?

CHALL: It is a difficult decision to make--whether to take a child out of his classroom for extra help from a tutor or remedial specialist, whether to send him to a resource room for some of his instruction, or whether to put him into a special classroom.

Many states are in fact reviewing their procedures for making such decisions and in Massachusetts, for example, a decision of this kind can be made only after an evaluation by a multidisciplinary team.

But with problems not severe enough to require a multidisciplinary team, it would seem that teachers need to have the authority to make the decision. Too often, unfortunately, they do not work on their own authority.

FISHER: I think they are a little reluctant to make that commitment.

CHALL: It is part of their professional training; they should make it. Who else should make such a commitment?

FISHER: I don't know. That was the reason for the question.

CHALL: The child may be asked for his views on the matter and they should be taken into account, but the teacher, parent, and various specialists should make the decisions, I think.

SINGER: I was very much impressed when I read Philip Gough's analysis of input stimuli and responses to them in beginning readers. It was in the article titled One Second of Reading, which appeared in the second edition of Theoretical Models and Processes of Reading edited by myself and Robert Ruddell (Newark, Delaware: International Reading Association, 1976). He pointed out that youngsters learning to read are like cryptographers. They formulate hypotheses and then perform tests on the printed message to determine whether their hypotheses can be confirmed. To do so, they have to have adequate input of coded material. However, beginning readers have not had nor could they have had adequate

instructional input for forming correct hypotheses. Yet they still have to respond to printed stimuli in learning to read. Those children who do so have to be willing to take risks in bridging and filling in the necessary information for forming appropriate hypotheses. Perhaps they fill in by drawing upon the syntactics, semantics, and phonology of their relatively sophisticated oral language background. The risks that they take in doing so are the kind of gambling strategies in concept attainment that Bruner, Goodnow, and Austin discussed in their book on The Study of Thinking (New York: Wiley, 1956).

I would like you to comment on an implication of this risk-taking, gambling, and hypothesis-testing process. Perhaps what we ought to do to improve reading acquisition behavior, given the necessity of risk-taking for beginning readers, is discuss how we can set up conditions in schools to encourage youngsters to take risks, to acquire gambling strategies, and to form and test hypotheses in their initial responses to printed stimuli. What kinds of instructional conditions can we set up that would allow and encourage kids to take risks? How can we prepare teachers for this kind of instruction?

CHALL: That's a good point. The good teacher, I think, has an intellectual excitement about the whole task of reading. You can have excitement at the beginning stage. When a child misreads or reads a word correctly, the teachers say, "How do you know? Prove it to me. Be a scientist, prove it."

In the 27 cooperative USOE studies Shirley Feldmann and I studied the effect of the teacher on first-grade reading achievement. We found that teachers did make a difference. One of these factors that made a difference was a thinking approach to learning.

I should like to say here that if I have overstated my position, it is because I could present less than half of my paper in the formal presentation because of time limitations. Most of the comments were about the part I did not present. With regard to reading stages at the beginning, the excitement for the child is with the letters: "How do you spell dog?" "Why did you spell it that way?" And then the excitement moves to the story and perhaps why the author made it end that way. And then the focus and concern move to George Washington and why he became the first president.

I think that we may move in too fast to the meaning, and to critical reading. I think that is probably done better if approached gradually.